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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

OFFICIAL

Applicant: M. Masters et al.
Serial No.: 09/944,315
For: Textured Surfaces for
Hearing Instruments
Filed: August 31, 2001
Group: 2643
Examiner: Phylesha L. Dabney
Att'y Dkt.: 2001 P 16281 US

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Brief on Appeal

Commissioner for Patents
P.O. Box 1450
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Sir:

This brief is in support of the applicant's May 4, 2004 notice of appeal of the final rejection of the claims.

Real Party in Interest

Siemens Hearing Instruments, Inc., Piscataway, NJ.

Related Appeals and Interferences

None.

Status of Claims

Claims 1-19 are pending in this application. Claims 1-3, 5-6, 8-9, and 11-19 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,401,859 (Widmer et al.) and claims 4, 7, and 10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the same reference (Widmer et al.). All of the rejections of the claims are appealed.

Status of Amendments

No amendments were submitted after the final rejection.

Summary of the Invention

Hearing devices inserted in a user's ear typically have a smooth or glossy finish, and the manufacturing process often includes a polishing phase to maintain such a finish. Although this may provide an aesthetically pleasing appearance, the instrument may have a tendency to slip out unless sized to create an interference fit, which could cause discomfort. Also, a shiny, light-reflective surface will make the presence of the unit in one's ear obvious to others.

To prevent the hearing instrument from slipping out of the ear and to create an outward appearance that blends with the wearer's ear, the outer surface of a hearing instrument shell is given a textured, non-smooth finish.

Issues

The claims are not anticipated nor rendered obvious because they have not been properly construed and the cited reference fails to disclose all of the claimed elements.

Grouping of Claims

The claims fall roughly into three groups: claims 1-7 and 19 are directed to a hearing instrument, claims 8-13 are directed to a hearing instrument outer surface, and claims 14-18 are directed to a product by process. The applicants respectfully suggest that claims 2 or 8 be relied upon to represent all three groups.

Argument

Widmer et al., the cited reference, cannot support a rejection of the claims under either § 102 or § 103. As a threshold matter, the term texture has been improperly construed.

Rejection under 35 U.S.C. § 102(e)

Claims 1-3, 5-6, 8-9, and 11-19 are not invalid under 35 U.S.C. § 102(e) in view of the Widmer et al. because the reference does not disclose, teach, or suggest a hearing instrument with a textured surface as described and claimed in the application. To sustain a rejection based on anticipation under 35 U.S.C. § 102, "the reference must teach every element of the claim." M.P.E.P. § 2131 (8th ed., August 2001), page 2100-69. The M.P.E.P. goes on to state that "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference," quoting Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). Further, "[d]uring patent examination, the pending claims must be 'given their broadest reasonable interpretation consistent with the specification.'" M.P.E.P. § 2111 (8th ed., rev. 1, February 2003), page 2100-46, quoting In re Hyatt, 211 F.3d 1367, 1372, 54 U.S.P.Q.2d 1664, 1667 (Fed. Cir. 2000). However, "this interpretation must be consistent with the one that those skilled in the art would reach." In re Cortright, 165 F.3d 1353, 1359,

49 U.S.P.Q.2d 1464, 1468 (Fed. Cir. 1999); M.P.E.P. § 2111 (8th ed., rev. 1, February 2003), page 2100-47 (last paragraph in the left-hand column).

As noted, the element missing from the cited reference is that of "texture" -- found in each of the applicants' claims. The applicants provided a definition of texture in the specification as well as a citation to a standard engineering handbook to illustrate how they understand and use the term.

Texture is defined in part in the application on page 2, lines 8-13:

By creating a **textured, non-smooth finish** on the outer shell of a hearing instrument, the hearing instrument will more readily lodge and remain within the ear canal. Further, the **textured** finish has an appearance closer to that of **natural skin** and therefore the hearing instrument is less noticeable to others, blending in with the visible portions of the ear.

[Emphasis added.] To further illustrate the meaning of the term texture, the application further provides the following:

The actual characteristics of the **texture** employed may be quite varied and are a matter of design choice and suitability to the application. The particulars of surface **texture** are well established and discussed at length in "Surface-Texture Designation, Production, and Control," Marks' Standard Handbook for Mechanical Engineers, 9th ed., 1987, pages 13-75 through 13-81.

Page 6, lines 12-17 [emphasis added]. (A copy of the excerpt is attached to the certification of Martin W. Masters, paper no. 21, entered March 2, 2004.) This section of the application and the cited excerpt further distinguishes the claimed texture from the rib structures of Widmer et al.

Widmer et al. does not satisfy the requirements for anticipation as it fails to disclose, teach, or suggest creating a surface texture; nowhere in the patent is there any mention of the word texture (or an equivalent thereto). Further, Widmer et al. does not address the problems of slippage and appearance solved by the invention's textured surface. Rather, Widmer et al. discusses adding grooves (for venting) or ribs to the shell for structural support, but otherwise not modifying the surface of the shell itself; Widmer et al.'s surface remains smooth and untextured:

Where desired, the **structural stability** of the skin of the shell, **smooth on the outside** in the design example shown, is assured by means of fins or ribs 47 integrated into the **inside** of the shell which ribs are of the same material as the skin of the shell.

Widmer et al., supra, column 11, lines 7-11 [emphasis added].

In lieu of or in addition to the targeted **wall reinforcement** and predefined bending and torsional characteristics, in short the **structural properties** of the in-ear custom-moulded ear-plug unit, the **inner ribbing** as shown in FIGS. 17 and 18 may be complemented by an outer rib pattern as mentioned further above. To that effect, as indicated in FIGS. 18 and 19, the outer surface of the custom-moulded ear-plug unit 49 is provided with a pattern of ribs 51 which may differ regionally in terms of their density, orientation and cross section.

Widmer et al., supra, column 11, lines 35-43 [emphasis added].

Indeed, although the examiner cites Figures 4-24 as examples of texture, most of the figures do not concern the outer surface of the device and, of those that do, they fail to disclose, teach, or suggest a texture, and all are inapposite as set forth in detail in the amendment filed March 2, 2004 (paper no. 19, page 8). Only Figures 18-21 illustrate structures on the outside of the shell. Figures 18-20 depict a "pattern of ribs 51" (column 11, line 42). Figure 21 illustrates a device having a "corrugated or bellows-like section 63" while the surface remains smooth (column 12, lines 34-35). None of these constitute a texture as described and claimed in the application.

In the "Response to Arguments" (pp. 4-7 of the advisory action, paper no. 22), the application is quoted to support the argument that the claims encompass the rib structure of Widmer et al., but this assertion misconstrues the quotation and urges an interpretation of the term "texture" contrary to the manner in which it is used in the application and employed by those skilled in the art. Certification of Martin W. Masters, ¶ 3. The ribs on the otherwise smooth-surfaced shell of Widmer et al. no more constitute a "texture" than do speed bumps on an asphalt road surface. Nor can these ribs create the appearance of "natural skin" (discussed in the first quoted section above). Therefore, the examiner's construction of the term "texture" is improper. M.P.E.P. § 2111 and In re Cortright, supra.

Failing to disclose, teach, or suggest creating a texture on the surface, Widmer et al. cannot anticipate the independent claims (1, 2, 8, and 13-19). M.P.E.P. § 2131, supra. Further, the reference does not disclose, teach, or suggest the additional limitations of the dependent claims 3, 5, 6, 9, 11, and 12. Finally, Widmer et al. does not provide any suggestion or teaching to modify its device to achieve the applicants' claimed texture and, lacking such, the claims are also not obvious in view of that reference. M.P.E.P. § 2143.

Rejection under 35 U.S.C. § 103(a)

Claims 4, 7, and 10 are not obvious in view of Widmer et al. as it fails to disclose, teach, or suggest a textured surface. M.P.E.P. § 2143.03 (8th ed., August 2001), p. 2100-126 ("[t]o establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art"), citing In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974) [emphasis in original]. Additionally, there is no suggestion or teaching in Widmer et al. that would lead one to modify its surfaces in such a manner that would achieve the claimed textured surface. Thus, claims 4, 7, and 10 are allowable over the cited reference.

Conclusion

Since the references do not anticipate nor render the claims obvious, the claims are allowable over the cited art and therefore the applicant respectfully requests that the Board reverse the examiner and direct that the application be passed to allowance.

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Respectfully submitted,



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Appendix

1. A textured hearing instrument shell.
2. A hearing instrument, where at least a portion of the instrument is inserted in the ear of a user, comprising an outer surface where at least a portion of the outer surface has a texture.
3. A hearing instrument as set forth in claim 2, where the texture is non-smooth.
4. A hearing instrument as set forth in claim 2, where the texture comprises a non-reflective finish.
5. A hearing instrument as set forth in claim 2, where the texture comprises a series of lines, equally or unequally spaced, or a plurality of regular or irregular repeating shapes.
6. A hearing instrument as set forth in claim 2, where the texture comprises a predetermined or randomly generated pattern.
7. A hearing instrument as set forth in claim 2, further comprising a faceplate comprising a textured outer surface.
8. A hearing instrument outer surface, where:
at least a portion of the hearing instrument is inserted in the ear of a user; and
at least a portion of the outer surface has a texture.
9. A hearing instrument outer surface as set forth in claim 8, where the texture is non-smooth.
10. A hearing instrument outer surface as set forth in claim 8, where the texture comprises a non-reflective finish.
11. A hearing instrument outer surface as set forth in claim 8, where the texture comprises a series of lines, equally or unequally spaced, or a plurality of regular or irregular repeating shapes.
12. A hearing instrument outer surface as set forth in claim 8, where the texture comprises a predetermined or randomly generated pattern.
13. A textured hearing instrument outer surface.
14. A hearing instrument where at least a portion of the instrument is inserted in the ear of a user and comprising an outer surface, where at least a portion of the outer surface has a texture made by a process comprising blasting the surface with an abrasive or grit, or applying ultraviolet light, laser, infrared heat, hot air, or another heat source to the surface.

15. A hearing instrument, where at least a portion of the instrument is inserted in the ear of a user, comprising an outer surface, where:
the hearing instrument is fabricated as a series of layers; and
at least a portion of the outer surface has a texture made by a process comprising applying waveforms to the edges of one or more of the layers during the process of fabrication.

16. A hearing instrument, where at least a portion of the instrument is inserted in the ear of a user, comprising an outer surface where at least a portion of the outer surface has a texture made by a process comprising:
fabricating a mold cavity derived from surface contours of the user's ear; and
modifying the mold cavity to create a texture in the outer surface.

17. A hearing instrument, where at least a portion of the instrument is inserted in the ear of a user, comprising a shell comprising an outer surface where at least a portion of the outer surface has a texture, where:
the texture comprises
a series of lines, equally or unequally spaced; or
a plurality of regular or irregular repeating shapes; or
a predetermined or randomly generated pattern; and
the texture is made by a process comprising
blasting the surface with an abrasive or grit; or
applying ultraviolet light, laser, infrared heat, hot air, or another heat source to the surface; or
applying waveforms to the edges of one or more of the layers during the process of fabrication.

18. A hearing instrument outer surface, where at least a portion of the instrument is inserted in the ear of a user and at least a portion of the outer surface has a texture, where:
the texture comprises
a series of lines, equally or unequally spaced; or
a plurality of regular or irregular repeating shapes; or
a predetermined or randomly generated pattern; and
the texture is made by a process comprising
blasting the surface with an abrasive or grit; or
applying ultraviolet light, laser, infrared heat, hot air, or another heat source to the surface; or
applying waveforms to the edges of one or more of the layers during the process of fabrication.

19. A hearing instrument, where at least a portion of the instrument is inserted in the ear of a user, comprising a shell comprising an outer surface where at least a portion of the outer surface has a texture, where:

the texture comprises

a series of lines, equally or unequally spaced; or
a plurality of regular or irregular repeating shapes; or
a predetermined or randomly generated pattern; and

the texture is made by a process comprising

fabricating a mold cavity derived from surface contours of the user's ear; and

modifying the mold cavity to create the texture in the outer surface.